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Mineral Industry Surveys

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CHROMIUM IN FEBRUARY 2005

On the basis of gross weight, consumption of chromium ferroalloys and metal in February 2005 decreased 16% compared with consumption in January 2005, according to the U.S. Geological Survey.

Included in this Mineral Industry Surveys are U.S. salient chromium statistics, U.S. government stockpile inventory of chromium materials in February 2005, consumption by end use and consumer stocks of chromium ferroalloys and metal at the end of February 2005, U.S. foreign trade data for selected chromium-containing materials in January 2005, and chromite ore prices.

Update

The Defense National Stockpile Center (DNSC) announced the sale of 11,070 metric tons (t) of ferrochromium in March comprising 9,070 t of high-carbon ferrochromium and 2,000 t of low-carbon ferrochromium. The sale was valued at $11.9 million or $0.49 per pound-gross weight (Defense National Stockpile Center, 2005).

Reference Cited

Defense National Stockpile Center, 2005, Stockpile announces ferrochromium sales for March 2005: Defense National Stockpile Center, News Release DNSC-05-2588, April 5, 1 p.

TABLE 1
U.S. SALIENT CHROMIUM STATISTICS[1]

(Metric tons, gross weight)

	2004			2005		
	December	Fourth quarter	January-December[2]	January	February	January-February
Production:						
Stainless steel production[3]	211,000	618,000	2,000,000	217,000	183,000	400,000
Components of U.S. supply:						
Stainless steel scrap receipts	65,500	189,000	787,000	62,600	63,400	126,000
Stainless steel scrap consumption	97,900	284,000	1,120,000	91,700 r	89,200	181,000
Imports for consumption:						
Chromite ore	23,600	60,600	153,000	9,660	NA	9,660 [4]
Ferrochromium:						
More than 4% carbon	54,000	132,000	398,000	56,800	NA	56,800 [4]
More than 3% carbon but not more than 4% carbon	18	18	48	--	NA	-- [4]
More than 0.5%, but not more than 3% carbon	168	739	5,720	1,710	NA	1,710 [4]
Not more than 0.5% carbon	2,360	8,240	31,400	3,100	NA	3,100 [4]
Ferrochromium silicon	6,200	9,840	30,600	5,690	NA	5,690 [4]
Total ferroalloy imports	62,700	150,000	466,000	67,300	NA	67,300 [4]
Chromium metal[5]	841	2,320	9,610	1,200	NA	1,200 [4]
Stainless steel	89,400	244,000	811,000	71,000	NA	71,000 [4]
Stainless steel scrap	17,800	37,500	146,000	10,400	NA	10,400 [4]
Distribution of U.S. supply:						
Consumption, industry, chromium ferroalloys and metal	36,800	109,000	432,000	38,300 r	32,200	70,500
Exports:						
Chromite ore	771	2,100	43,100	2,550	NA	2,550 [4]
Chromium ferroalloys:						
High-carbon ferrochromium	532	1,370	6,580	334	NA	334 [4]
Low-carbon ferrochromium	82	430	1,410	73	NA	73 [4]
Ferrochromium silicon	25	25	1,150	20	NA	20 [4]
Total ferroalloy exports	639	1,820	9,140	427	NA	427 [4]
Chromium metal	51	155	931	103	NA	103 [4]
Stainless steel	25,500	79,400	323,000	26,100	NA	26,100 [4]
Stainless steel scrap	39,700	122,000	478,000	31,900	NA	31,900 [4]
Stocks at end of period:						
Consumer, industry, chromium ferroalloys and metal	12,000	XX	XX	11,300	11,500	XX
Government stockpile:						
Chromium ferroalloys	589,000	XX	XX	576,000	566,000	XX
Chromium metal	6,670	XX	XX	6,190	6,190	XX

rRevised. NA Not available. XX Not applicable. -- Zero.

[1]Data are rounded to no more than three significant digits; may not add to totals shown.

[2]May include revised data.

[3]Data on stainless steel production reported by American Iron and Steel Institute; monthly, quarterly, and year-to-date production of stainless and heat-resisting raw steel.

[4]Includes only January data; February data not available.

[5]Includes waste and scrap and other.

TABLE 2
U.S. REPORTED CONSUMPTION AND STOCKS
OF CHROMIUM PRODUCTS IN 2005[1, 2]

(Metric tons, gross weight unless otherwise noted)

	January	February	January-February
Consumption by end use:			
Alloy uses:			
Iron alloys:			
Steel:			
Carbon steel	483	430	913
High-strength low-alloy steel	614 r	630	1,250
Stainless and heat-resisting steel	33,200	27,500	60,700
Full alloy steel	1,730 r	1,510	3,240
Electrical steel	W	W	W
Tool steel	430	359	789
Unspecified Steel	W	W	W
Cast irons	W	W	W
Superalloys	758 r	829	1,590
Other alloys[3]	52	70	122
Total	38,300 r	32,200	70,500
Total, chromium content	22,100 r	18,900	41,000
Consumption by material:			
Low-carbon ferrochromium	2,120 r	1,900	4,010
High-carbon ferrochromium	32,600	27,100	59,700
Ferrochromium silicon	2,930 r	2,650	5,590
Chromium metal	407 r	399	806
Chromite ore	W	W	W
Chromium-aluminum alloy	26	27	54
Other chromium materials	W	W	W
Total	38,300 r	32,200	70,500
Total, chromium content	22,100 r	18,900	41,000
Consumer stocks:			
Low-carbon ferrochromium	1,960 r	1,980	XX
High-carbon ferrochromium	7,920	8,100	XX
Ferrochromium silicon	1,150	1,120	XX
Chromium metal	179 r	174	XX
Chromite ore	W	W	XX
Chromium-aluminum alloy	33	39	XX
Other chromium materials	W	W	XX
Total	11,300	11,500	XX
Total, chromium content	6,610	6,860	XX

[r]Revised. W Withheld to avoid disclosing company proprietary data; included in "Total." XX Not applicable.

[1]Data are rounded to no more than three significant digits; may not add to totals shown.

[2]Includes estimates.

[3]Includes welding and alloy hard-facing rods and materials; wear- and corrosion-resistant alloys; and aluminum, copper, magnetic, nickel, and other alloys.

TABLE 3
U.S. GOVERNMENT STOCKPILE INVENTORY OF CHROMIUM MATERIALS[1, 2]

(Metric tons)

Period	Chromite ore Refractory	Chromium ferroalloys		Chromium metal
		High-carbon ferro-chromium	Low-carbon ferro-chromium	
2004:				
February	82,100	453,000	212,000	6,660
March	82,100	453,000	212,000	6,660
April	--	436,000	209,000	6,660
May	--	430,000	208,000	6,660
June	--	425,000	208,000	6,660
July	--	414,000	208,000	6,670
August	--	412,000	206,000	6,670
September	--	408,000	192,000	6,670
October	--	404,000	192,000	6,670
November	--	398,000	191,000	6,670
December	--	398,000	191,000	6,670
2005:				
January	--	386,000	190,000	6,190
February	--	378,000	188,000	6,190

-- Zero.

[1]Data are rounded to no more than three significant digits.

[2]These Government stocks are reported by the Defense National Stockpile Center in Inventory of Stockpile Materials R-1, which reports uncommitted inventory. Uncommitted inventory is that inventory for which there is no sales contract. Committed inventory is that inventory for which there is a sales contract, however, the material has not yet been shipped. For chromium materials, the R-1 report includes chromium materials that (1) meet specifications and are held in excess of goal and (2) do not meet specifications and are held in excess of goal. The R-1 report excludes chromium materials that are committed and awaiting shipment.

Source: Defense National Stockpile Center.

TABLE 4

U.S. EXPORTS OF CHROMITE ORE, CHROMIUM FERROALLOYS, AND METAL[1]

Period	Chromite ore		Chromium ferroalloys[2]			Chromium metal[3]	
	Gross weight (metric tons)	Value (thousands)	Gross weight (metric tons)	Chromium content (metric tons)	Value (thousands)	Gross weight (metric tons)	Value (thousands)
2004:							
January	223	$74	583	344	$767	76	$1,520
February	2,510	548	685	409	1,040	76	1,660
March	938	290	2,440	1,400	2,940	54	1,710
April	1,340	359	623	348	735	69	2,230
May	3,920	480	370	198	443	177	1,850
June	11,000	1,570	671	362	931	79	1,400
July	8,180	2,130	713	398	1,000	100	1,570
August	10,200	2,680	533	322	685	93	1,510
September	2,750	1,590	706	401	876	53	1,290
October	823	270	565	347	799	58	1,190
November	507	197	616	398	843	46	1,020
December	771	231	639	388	897	51	657
January-December	43,100	10,400	9,140	5,320	12,000	931	17,600
2005:							
January	2,550	618	427	257	610	103	1,070

[1]Data are rounded to no more than three significant digits; may not add to totals shown.

[2]Includes low-, medium-, and high-carbon ferrochromium and ferrochromium silicon.

[3]Includes chromium metal waste and scrap and unwrought powders.

Source: U.S. Census Bureau.

TABLE 5

U.S. IMPORTS FOR CONSUMPTION OF CHROMITE ORE, FERROCHROMIUM, AND CHROMIUM METAL[1]

(Metric tons)

	2004			2005
	November	December	January-December[2]	January
Chromite ore:				
Not more than 40% chromic oxide:				
Gross weight	--	--	--	--
Chromic oxide content	--	--	--	--
More than 40% but less than 46% chromic oxide:				
Gross weight	72	24	1,690	--
Chromic oxide content	33	11	761	--
46% or more chromic oxide:				
Gross weight	24,400	23,500	151,000	9,660
Chromic oxide content	11,300	11,000	71,600	4,560
Total, all grades:				
Gross weight	24,500	23,600	153,000	9,660
Chromic oxide content	11,300	11,000	72,400	4,560
Ferrochromium:				
Low-carbon:[3]				
Not more than 0.5%:				
Gross weight	1,360	2,350	31,400	3,100
Chromium content	937	1,650	21,100	2,220
More than 0.5% but not more than 3%:				
Gross weight	--	168	5,720	1,710
Chromium content	--	113	3,830	1,060
Total, low-carbon:				
Gross weight	1,360	2,520	37,100	4,810
Chromium content	937	1,760	24,900	3,280
Medium-carbon:[4]				
Gross weight	--	18	48	--
Chromium content	--	NA	NA	--
High-carbon:[5]				
Gross weight	21,000	54,000	398,000	56,800
Chromium content	10,600	30,700	223,000	32,400
Total, all grades:				
Gross weight	22,400	56,500	435,000	61,600
Chromium content	11,500	32,500	248,000	35,700
Chromium metal:				
Unwrought powders	58	129	1,350	67
Waste and scrap	2	--	61	--
Other than waste and scrap and unwrought powders	569	712	8,200	1,130
Total, all grades	629	841	9,610	1,200

NA Not available. -- Zero.

[1]Data are rounded to no more than three significant digits; may not add to totals shown.

[2]May include revised data.

[3]Ferrochromium containing not more than 3% carbon.

[4]Ferrochromium containing more than 3% carbon but not more than 4% carbon.

[5]Ferrrochromium containing more than 4% carbon.

Source: U.S. Census Bureau.

TABLE 6
U.S. IMPORTS FOR CONSUMPTION OF FERROCHROMIUM IN 2005, BY GRADE AND BY COUNTRY[1]

Grade and country	January		
	Gross weight (metric tons)	Chromium content (metric tons)	Value[2] (thousands)
High-carbon ferrochromium:[3]			
Kazakhstan	13,900	9,620	$13,900
Russia	4,380	2,890	4,280
South Africa	32,300	16,200	20,300
Zimbabwe	6,170	3,720	4,970
Total	56,800	32,400	43,500
Low-carbon ferrochromium:[4]			
More than 0.5% but not more than 3% carbon:			
India	20	13	17
Russia	1,040	703	894
South Africa	650	347	681
Total	1,710	1,060	1,590
Not more than 0.5% carbon:			
France	4	4	8
Germany	498	350	931
Japan	140	98	363
Kazakhstan	619	420	848
Russia	1,840	1,340	2,480
Total	3,100	2,220	4,630
All grades:			
France	4	4	8
Germany	498	350	931
India	20	13	17
Japan	140	98	363
Kazakhstan	14,500	10,000	14,800
Russia	7,260	4,930	7,650
South Africa	33,000	16,500	21,000
Zimbabwe	6,170	3,720	4,970
Total	61,600	35,700	49,700

[1]Data are rounded to no more than three significant digits; may not add to totals shown.
[2]Customs import value generally represents a value in the foreign country and therefore excludes U.S. import duties, freight, insurance, and other charges incurred in bringing the merchandise into the United States.
[3]Ferrochromium containing more than 4% carbon.
[4]Ferrochromium containing less than 3% carbon.

Source: U.S. Census Bureau.

TABLE 7
U.S. IMPORTS FOR CONSUMPTION OF CHROMIUM METAL IN 2005, BY GRADE AND BY COUNTRY[1]

Grade and country	January	
	Gross weight (metric tons)	Value[2] (thousands)
Unwrought powders:		
Japan	47	$693
Russia	20	78
United Kingdom	(3)	33
Total	67	804
Other than waste and scrap and unwrought powders:		
Austria	(3)	4
China	280	1,290
France	145	1,010
Germany	1	7
India	1	5
Japan	11	947
Russia	515	4,100
United Kingdom	181	1,140
Total	1,130	8,500
All grades:		
Austria	(3)	4
China	280	1,290
France	145	1,010
Germany	1	7
India	1	5
Japan	58	1,640
Russia	535	4,180
United Kingdom	181	1,170
Total	1,200	9,310

[1]Data are rounded to no more than three significant digits; may not add to totals shown.
[2]Customs import value generally represents a value in the foreign country and therefore excludes U.S. import duties, freight, insurance, and other charges incurred in bringing the merchandise into the United States.
[3]Less than 1/2 unit.

Source: U.S. Census Bureau.

TABLE 8
U.S. TRADE OF STAINLESS STEEL, BY PRODUCT, IN 2005[1]

Stainless steel product	January Gross weight (metric tons)	January Value[2] (thousands)
Exports:		
Ingot	674	$4,190
Flat-rolled (width > 600 mm)	10,100	28,900
Flat-rolled (width < 600 mm)	9,380	26,800
Bars and rods in irregular coils	334	969
Other bars and rods	2,380	11,800
Wire	582	4,000
Tubes, pipes, hollow profiles	2,710	14,000
Total	26,100	90,800
Stainless steel scrap	31,900	33,100
Grand total	58,100	124,000
Imports:		
Ingot	8,980	24,700
Flat-rolled (width > 600 mm)	33,700	87,800
Flat-rolled (width < 600 mm)	3,780	13,700
Bars and rods in irregular coils	4,660	12,600
Other bars and rods	8,060	30,300
Wire	3,320	13,700
Tubes, pipes, hollow profiles	8,490	42,300
Total	71,000	225,000
Stainless steel scrap	10,400	12,900
Grand total	81,400	238,000

[1]Data are rounded to no more than three significant digits; may not add to totals shown.

[2]Export value is free alongside ship (f.a.s.). Import value is Customs import value, which generally represents a value in the foreign country and therefore excludes U.S. import duties, freight, insurance, and other charges incurred in bringing the merchandise into the United States.

Source: U.S. Census Bureau.

TABLE 9
CHROMITE ORE PRICES

(Dollars per metric ton, gross weight unless otherwise noted)

Week ending	Turkey[1] 1	Turkey[1] 2	South Africa[2] 1	South Africa[2] 2	South Africa[2] 3	South Africa[2] 4	Philippines[3]
2004:							
01/02	NA	NA	50 - 60	80 - 90	100 - 120	50 - 60	125 - 145
01/09	125	150					
01/16	125	150					
01/23	135	155					
01/30	135	155					
02/06	135	155	50 - 65	80 - 90	100 - 120	50 - 60	125 - 145
02/13	135	155					
02/20	135	155					
02/27	135	155					
03/05	135	155	60 - 80	80 - 100	100 - 120	50 - 60	125 - 145
03/12	135	155					
03/19	135	155					
03/26	135	155					
04/02	135	155	75 - 100	100 - 120	100 - 120	65 - 70	125 - 145
04/09	135	155					
04/16	135	155					
04/23	130	150					
04/30	130	150					

See footnotes at end of table.

TABLE 9--Continued
CHROMITE ORE PRICES

(Dollars per metric ton, gross weight unless otherwise noted)

Week ending	Turkey[1]		South Africa[2]				Philippines[3]
	1	2	1	2	3	4	
2004:							
05/07	130	150	75 - 100	100 - 120	100 - 120	65 - 70	125 - 145
05/14	125	145					
05/21	120	140					
05/28	120	140					
06/04	120	140	80 - 110	120 - 140	100 - 120	70 - 90	125 - 145
06/11	120	140					
06/18	115	130					
06/25	115	130					
07/02	115	130	80 - 110	120 - 140	100 - 120	70 - 90	125 - 145
07/09	115	130					
07/16	115	130					
07/23	120	135					
07/30	120	135					
08/06	120	135	85 - 120	125 - 150	100 - 120	75 - 95	125 - 145
08/13	120	135					
08/20	120	135					
08/27	120	135					
09/03	120	135	85 - 120	125 - 150	100 - 120	75 - 95	125 - 145
09/10	120	135					
09/17	120	135					
09/24	120	135					
10/01	120	135	85 - 120	125 - 150	100 - 120	75 - 95	125 - 145
10/08	120	135					
10/15	120	135					
10/22	120	135					
10/29	120	135					
11/05	120	135	85 - 120	125 - 150	100 - 120	75 - 95	125 - 145
11/12	120	135					
11/19	120	135					
11/26	120	135					
12/03	120	135	85 - 125	130 - 150	100 - 120	75 - 95	125 - 145
12/10	130	145					
12/17	130	145					
12/24	130	145					
12/31	130	145					
Avg.	125	142	89	119	110	74	135
2005:							
01/07	130	145	75 - 125	120 - 140	100 - 120	70 - 80	125 - 145
01/14	130	145					
01/21	140	155					
01/28	140	155					
02/04	140	155	125 - 150	170 - 190	100 - 120	80 - 90	125 - 145
02/11	140	155					
02/18	150	175					
02/25	165	190					
03/04	175	195	125 - 150	170 - 190	100 - 120	80 - 90	125 - 145
03/11	175	195					
03/18	175	195					
03/25	175	195					

[1]Turkish 1 (T1) is called 38% - 40% Cr_2O_3 by Ryan's Notes (RN); T2 is called 44% Cr_2O_3 by RN.

[2]South African 1 (SA1) is called chemical grade, 46% Cr_2O_3, wet bulk, free on board (f.o.b.) by Industrial Minerals (IM); SA2 is called foundry grade, 46% Cr_2O_3, wet bulk, f.o.b. by IM; SA3 is called refractory grade, 46% Cr_2O_3, wet bulk, f.o.b. by IM; SA4 is called metallurgical grade, friable lumpy, 40% Cr_2O_3 by IM.

[3]Philippines is called refractory grade, f.o.b. by IM.